



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,166	04/01/2004	Junji Ishizaki	106709.01	7386
25944	7590	02/14/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			MARCHESCHI, MICHAEL A	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/814,166

Applicant(s)

ISHIZAKI ET AL.

Examiner

Michael A Marcheschi

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/613,427.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/1/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 1755

The lengthy specification has not been checked as to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware of in the specification.

The disclosure is objected to because of the following informalities:

The specification is objected to because the continuing data is not updated (i.e. define the patent number of the parent application).

Appropriate correction is required.

The disclosure is also objected to because of the following informalities:

The specification in section [0014], [0017], [0038], [0176] and [0178] set forth the limitations **(1)** "each of the...bonded at an increased area of a surface thereof to the vitrified bond layer" (sections [0014], [0038], [0176] and [0178]) and **(2)** "each of the...bonded at an increased area of its surface to the vitrified bond layer" (section [0017]). The examiner is unclear as to what these limitation encompass because (1) what is the area increased relative to and (2) "increased area of a surface" does not clearly define how the grains are bonded. In other words, the above limitations are poorly drafted so as to preclude an exact meaning of said limitations. It is strongly suggested that the above limitations be amended and clarified in response to this action.

Appropriate correction is required.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 1755

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims are rejected as to the limitation "each of the...bonded at an increased area thereof to the vitrified bond layer" because the examiner is unclear as to what this limitation encompass because (1) what is the area increased relative to and (2) "increased area of a surface" does not clearly define how the grains are bonded and or positioned. In other words, the above limitation is poorly drafted so as to preclude an exact meaning of said limitation (this limitation is not set forth in a clear, concise, and exact terms).

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-20 are indefinite as to the limitation "each of the...bonded at an increased area thereof to the vitrified bond layer", as defined in claim 1, because the examiner is unclear as to what this limitation encompass because (1) what is the area increased relative to and (2) "increased area of a surface" does not clearly define how the grains are bonded and or positioned. In other words, the above limitation is poorly drafted so as to preclude an exact and definite determination and understanding of the scope of the limitation.

Art Unit: 1755

Claim 5 is indefinite because it is not defined in a clear and concise manner as to enable a complete and a definite meaning of said claim (i.e. especially the phrase “at least ones of...grains...grains). What is this claim defining?

Claim 8 is indefinite as to the limitation “are separated...said vitrified bond tool” because the examiner is unclear as to how the grains are separated by the tool. Do applicants mean “vitrified bond layer?

Claim 11 is indefinite because the examiner is unclear as to what the limitation “so as to be dotted on said working surface” encompasses, thus rendering the scope of the claim unclear. How are they dotted?

Claim 17 is indefinite as to the limitation “such that ones of said abrasive grains” (both occurrences” because this limitation does not define the claim in a clear and concise manner.

Claim 17 is also indefinite as to the limitation “having a comparatively large size or weight sink into said pattern layer by a comparatively large distance” because the examiner is unclear as to what “comparatively large” encompasses, thus rendering the scope of the claim unclear. Comparatively large compared to what? In addition, this limitation is indefinite because the examiner is unclear as to what “weight sink” encompasses, thus rendering the scope of the claim unclear. Finally, the above limitation is indefinite because the examiner is unclear as to what the entire limitation is trying to define in the claim, thus rendering the scope of the claim unclear (the way the limitation is drafted precludes an exact and definite determination and understanding of the scope of the limitation).

Claim 17 is also indefinite as to the limitation “having a comparatively small size or weight sink into said pattern layer by a comparatively small distance” because the examiner is

Art Unit: 1755

unclear as to what “comparatively small” encompasses, thus rendering the scope of the claim unclear. Comparatively small compared to what? In addition, this limitation is indefinite because the examiner is unclear as to what “weight sink” encompasses, thus rendering the scope of the claim unclear. Finally, the above limitation is indefinite because the examiner is unclear as to what the entire limitation is trying to define in the claim, thus rendering the scope of the claim unclear (the way the limitation is drafted precludes an exact and definite determination and understanding of the scope of the limitation).

Claim 17 is also indefinite as to the entire limitation “such that ones...equalized to each other” because this limitation is not defined in clear and concise manner as to enable complete and definite determination and understanding of the scope of the claim.

Claim 18 is indefinite as to the limitation “ones of said abrasive grains” because this limitation does not define the claim in a clear and concise manner.

Claim 18 is also indefinite as to the phrase “by turning said support body said working surface down” because the examiner is unclear as to what this limitation encompasses, thus rendering the scope of the claim unclear (this limitation is not defined in clear and concise manner as to enable complete and definite determination and understanding of the scope of the claim).

Claim 20 is indefinite as to the limitation “applying one of a paste and a slurry” because the examiner is confused as to what is actually applied. “At least one” implies one or more but “and” implies that both must be applied. Should “and” in said limitation be “or”?

**To comment on all the claims, the claims, in general, are wordy and not defined in clear, concise and exact terms and therefore should be rewritten.**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**In view of the above indefinite rejection to claim 1 and for the purpose of the following rejection, the examiner is interpreting the limitation “each of the...bonded at an increased area thereof to the vitrified bond layer” to mean that (1) the abrasive grains are spaced apart and (2) that the abrasive grains are embedded.**

Claims 1, 2, 6, 9 and 11-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 10193266.

The JP reference teaches in the abstract, the drawings and sections [0007]-[0023] and [0032], a vitrified bond tool comprising (1) a support body, (2) a vitrified bond layer and (3) a plurality of abrasive grains held in the bond layer, wherein the abrasive grains are spaced apart from each other.

The claimed invention (claims 1, 2, 6 and 9) is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. All of the claimed limitations, except a **literal** teaching of the limitation “each of the...bonded at an increased area thereof to the vitrified bond layer” are defined by the reference. With respect to the above limitation, in view of the examiners interpretation, as set forth above, the reference clearly defines this. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary. The limitations “spaced apart” and “predetermined pattern”, as defined by the reference, anticipates (102) or suggests (103) the limitations of claims 11-13 because said claims read on or encompass the limitation that the abrasive grains are “spaced apart”, as is clearly shown by the reference.

Claims 3, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over JP 10193266.

The limitation of claims 3 and 4 are obvious because the recitation of a “predetermined pattern for the openings”, as defined by the reference, broadly encompasses a pattern wherein the spacing between the openings can include the claimed spacing. Depending on the desired outcome of the abrasive layer, one skilled in the art would have known the required spacing through routine experimentation and optimization.



The limitation of claim 5 is obvious because the reference defines that the abrasive grains have and an average diameter of 3 microns or more, the structure can be composed of 1-3 layers (see figures) and that the grains approach the surface of the support body (abstract). In view of this, it can be reasonably seen that some of the particles can be smaller than the average size of others and that some of the grains do not have to contact the working surface (i.e. they approach this surface and approaching implies close but not touching).

The limitation of claim 7 is obvious because if the abrasive grains protrude from the surface of the bond layer, a clearly depicted by the figures, the part of the abrasive protruding from the layer broadly can correspond to the claimed broad values absent evidence to the contrary. From the figures, it appears that about 50% of the particle protrudes from the layer.

Claims 1, 2, 6, 9 and 11-13 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitsui et al.

The reference teaches in the abstract, the drawings and column 5, line 46-column 6, line 43, a vitrified bond tool comprising (1) a support body, (2) a holding layer and (3) a plurality of abrasive grains held in the bond layer, wherein the abrasive grains are spaced apart from each other. Although the abstract defines the holding layer as a metal plating layer, column 6, lines 36-38 teaches an alternative to the above teaching in that the that the holding layer can be a **vitrified bond**.

The claimed invention (claims 1, 2, 6 and 9) is anticipated by the reference because the reference teaches a composition which comprises all of the claimed components. All of the claimed limitations, except a **literal** teaching of the limitation "each of the...bonded at an

Art Unit: 1755

increased area thereof to the vitrified bond layer” are defined by the reference. With respect to the above limitation, in view of the examiners interpretation, as set forth above, the reference clearly defines this. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary. The limitation “spaced apart”, as defined by the reference, anticipates (102) or suggests (103) the limitations of claims 11-13 because said claims read on or encompass the limitation that the abrasive grains are “spaced apart”, as is clearly shown by the reference.

Claims 3, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over Mitsui et al.

The limitation of claims 3 and 4 are obvious because the reference clearly suggest throughout the disclosure that the abrasive grains are held in “random pattern” and this broadly encompasses a pattern wherein the spacing between the openings can include the claimed spacing. Depending on the desired outcome of the abrasive layer, one skilled in the art would have known the required spacing through routine experimentation and optimization.

The limitation of claim 5 is obvious because the reference defines and shows that the abrasive grains have and an average diameter of 50 microns or more and that the grains approach the surface of the support body (figures show this (grains not touching)). In view of this, it can be reasonably seen that some of the particles can be smaller than the average size of others and that the grains do not have to contact the working surface, thus making the limitations of claim 5 obvious.

The limitation of claim 7 is obvious because if the abrasive grains protrude from the surface of the bond layer, a clearly depicted by the figures, the part of the abrasive protruding

Art Unit: 1755

from the layer broadly can correspond to the claimed broad values absent evidence to the contrary. From the figures, it appears that about 50% of the particle protrudes from the layer.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,755,720. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the patented claims would render obvious the instant claims. All of the claimed limitations, except a **literal** teaching of the limitation "each of the...bonded at an increased area thereof to the vitrified bond layer" are claimed in the patented claims. With respect to the above limitation, **the examiner is interpreting the limitation "each of the...bonded at an increased area thereof to the vitrified bond layer" to mean that (1) the abrasive grains are spaced apart and (2) that the abrasive grains are embedded and the patented claims clearly define this, thus making this limitation obvious.**

The examiner acknowledges that this is a divisional application (i.e. parent restriction based on elected of species) however, claim 1 of the instant case corresponds to

Art Unit: 1755

claim 1 of the parent and claim 1 of the parent was not withdrawn in view of any restriction, thus claim 1 of the instant application can be rejected as a ODP over claim 1 of the parent. In other words, instant claim 1, as defined, is not based on the restricted out claims and even though a divisional status is claimed, this does not preclude an ODP rejection of claim 1 over the parent claim. However, all of the other claims were part of the withdrawn claims in view of the restriction and thus can not be rejected as an ODP.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Art Unit: 1755

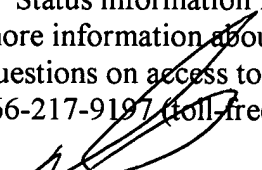
Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM  
2/8/05

  
Michael A Marcheschi  
Primary Examiner  
Art Unit 1755